



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

the aorist) or the future indicative in every person, and that the common exclusion of the subjunctive of the second person in prohibitions is not authorized by the Greek manuscripts, or by any known principle of the language. As to *ὅπως*, the construction always determines whether it regularly takes the future indicative or the subjunctive; and whatever view we may take of exceptional subjunctives in object clauses, no arbitrary rule can ever justify a future indicative in a pure final clause, in Attic Greek, against manuscript authority.

---

IV.—*On the best Method of Studying the North American Languages.*

BY J. HAMMOND TRUMBULL,  
OF HARTFORD, CONN.

THE collection of materials for the study of American aboriginal languages is already large. Indian vocabularies, grammars and grammatical notices may be reckoned by hundreds, and every year adds to their number. Among these are to be found many works of permanent value, indispensable to students of the languages of which they treat, a few of distinguished excellence, widely known and highly appreciated as contributions to comparative philology, and many others which, without imparting thorough or exact grammatical or lexical knowledge, have been very useful to explorers, missionaries and others, by facilitating communications with savage tribes. But if we look carefully through the entire collection (excluding, however, from present consideration all additions which have been made to it in the last ten years) we shall be obliged to confess—not without some mortification to the pride of American scholarship—that a great part of it is absolutely worthless to critical students of language, and what is worse, that the real value of original materials has in many instances been lost or much depreciated by the method of their exhibition. We shall find many rash gener-

alizations from insufficient data, much ingenious speculation from questionable facts and too frequent resort to the comparative method by writers who had, apparently, very little knowledge of either the vocabulary or the grammatical structure of the languages compared. The materials for the study of a new language or dialect have too often been collected and arranged with constant reference to its supposed likeness to some other languages previously known. This last-mentioned source of error has perhaps been more mischievous than any other. A great deal of ingenuity has been wasted in tracing analogies and resemblances between Indian languages and the Hebrew, Greek, and Latin. Even John Eliot, to whose rare linguistic genius his version of the Bible in the Massachusetts dialect testifies, was not exempt from this tendency to try the new by the old. He would have succeeded better in his "Indian Grammar Begun" if he could have forgotten all the Greek and Latin he knew. He was hampered by his 'accidence,' and sometimes overlooked the true characteristics of the Massachusetts language while he was striving to cast it in a classic mould,—searching for gerunds and supines which were not to be found and puzzling himself about reduplication, augment, and the optative mood.

One writer\* after having, as he assured his readers, "pursued the comparative examination of the Haytian language and dialects, *upon all the languages of the earth*" (the italics are his own), pronounces the Haytians, "of Pelagic origin," but traces the northern Algonkins to central Asia. Another presents a list of words to exhibit the likeness of the *Micmac* to classic Greek. A third searches twenty American languages for Egyptian roots, and finds them in abundance. A fourth goes straight to the origin of language, and gleans from the vocabularies of different tribes those words only which he conjectures to have been formed by imitation of natural sounds,—a conjecture which better acquaintance with the structure of these languages would have convinced him was unfounded.

A time may come when the relation of the languages of

---

\* C. S. Rafinesque, in *The American Nations*, vol. i. pp. 217, 219.

America to those of Asia and Europe can be intelligently discussed—if not established: but a great deal of work must be accomplished first in a field in which American scholars have as yet hardly broken ground. Why waste time groping in the dark after genetic correspondences with Asiatic and African languages when we have not advanced far enough in our knowledge of the American to discover their relations one to another? Take, for example, two groups for the study of which our materials are most copious and on the whole most trustworthy,—the Algonkin and the Iroquois: who has demonstrated or is prepared to demonstrate the genetic connection of the Mohawk with the Massachusetts, Abnaki or Chippeway?

The science of language is yet in its infancy. That it has made little progress in dealing with the problems which the almost innumerable languages of America present, need not surprise or discourage us. But true progress ought not to be impeded, at its starting point, by obstacles placed in its path, nor should time which might have been devoted to the investigation of new truths be so heavily taxed for the elimination of old errors.

While a few scholars have labored unprofitably to extract Semitic and Turanian roots from American words whose structure they had taken no pains to analyze, another and a larger class of collectors and editors have impaired the value of their materials by endeavoring to fashion them to an English pattern. I allude now to the very general adoption of some standard English vocabulary as the framework of collections and for the exhibition of results. An erroneous impression appears to have been very generally received, that real progress in the knowledge of a language has been made when one or two hundred words taken from its vocabulary have been set over against certain words of our own language which have meanings not very dissimilar.

Forty or fifty years ago, when Mr. Gallatin undertook his great work of classifying the North American languages, the advantages to be secured by the adoption of a standard vocabulary were obvious. Twenty years afterwards, there was still

good reason for employing the same vocabulary (with some unimportant changes introduced by Mr. Hale) in the arrangement of collections made by the U. S. Exploring Expedition on the North-West Coast. The value of Mr. Gallatin's "Synopsis of the Indian Tribes of North America," with a "Comparative Vocabulary of fifty-three Nations" (in the Transactions of the American Antiquarian Society, vol. ii., 1836), supplemented by his Introduction to Hale's "Indians of North West America" (in Transactions of the American Ethnological Society, vol. ii., 1848), can hardly be over-estimated. These works opened a way to the intelligent study and discussion of what had previously been a chaotic mass of materials. All that Mr. Gallatin proposed to do he accomplished admirably, considering the disadvantages under which he labored. His method was well adapted to the end he had in view,—to determine the more obvious groupings of American languages and dialects. Its value is not yet exhausted. The standard vocabulary continues to be useful to inexperienced collectors and as a guide in provisional classification. Next to the satisfaction of learning a new language is that of learning something about it—of ascertaining by means of a comparative vocabulary that it is or is not like some other language which we know, at least by name, and that the two belong or do not belong to the same 'stock,' 'family,' 'class' or 'group,'—terms which are used with very uncertain apprehension of their meaning, when applied to North American tongues.

Duly recognizing the past and present usefulness of these vocabularies as stepping-stones to knowledge, we must at the same time be careful not to estimate their value too highly,—remembering that the real work of the linguistic scholar begins where the provisional labors of the word-collector end. Such lists of words give no insight to grammatical structure, contribute little or nothing to analysis, and even with respect to the relationships of languages they enable us to determine only the nearest and most obvious. Professor Whitney (*Language and the Study of Language*, pp. 246, 247) has shown us "upon how narrow and imperfect a basis those com-

parative philologists build who are content with a facile setting side by side of words; whose materials are simple vocabularies, longer or shorter, of terms representing common ideas," and that "surface collation without genetic analysis, as far-reaching as the attainable evidence allows, is but a travesty of the methods of comparative philology."

Now while this is true universally, it has special force when applied to the study of languages of the polysynthetic type. The American languages differ from the Indo-European both in grammatical structure and in their plan of thought. To inquire in what, precisely, these differences consist would lead me too far from my present purpose, but the inquiry may at least be so far prosecuted as to show how little value attaches to any list of Indian words set down as the equivalents of or as exactly translated by the English, French, or Spanish words of a previously-constructed vocabulary,—to show, in short, how nearly impossible is the translation of *any* Indian name or verb by an English name or verb, and the converse.

In the English language the *analytical* tendency has attained its highest results. By employing independent words to express grammatical relations, it has reduced a great part of its vocabulary to monosyllables. The very essence of the Indian languages on the contrary is *synthesis*, and their capacity for synthetical development is apparently unlimited. Their highest aim is to express in a single word, "not only all that modifies or relates to the same object, or action, but both the action and the object; thus concentrating in a single expression a complex idea, or several ideas among which there is a natural connection."\* There is hardly any modification of which the action of a verb is susceptible which may not be effected by means of inseparable particles having the character of adverbs: "thus, the action may be intended, or be about to be done; it may be done well, better, ill, in a different manner, quickly, attentively, jointly, probably, rarely, repeatedly, habitually:† it may be affirmed, doubted, questioned, denied, prohibited.

---

\* Gallatin, in Trans. Am. Antiquarian Society, vol. ii. p. 165.

† Gallatin, in Trans. Am. Ethnological Society, vol. ii. p. cxlii.

A single example will illustrate this, and I select one which Mr. Bancroft (History of the United States, vol. iii. p. 259) has used for a similar purpose, in his observations on "the synthetic character of the American languages."

"The Indian never kneels; so, when Eliot translated *kneeling* [Mark i. 40], the word which he was compelled to form fills a line, and numbers eleven syllables."

As an instance of extreme synthesis this word—*wut-ap-pe'-sit-tuk-qus'-sun-naw-weht-unk'-quoh\**—is well taken, but its significance is by no means limited, as Mr. Bancroft supposed it to be, by that of the English participle 'kneeling.' In the verse cited it stands as the translation of the words "kneeling down to him" of the English text or, more exactly, for "he kneeled down to him"—Eliot having substituted the indicative mood for the participle, as Indian syntax requires. We have thus *five* English words represented by the Indian synthesis. But the denotation of the latter is not yet exhausted. Eliot might have found, in the Massachusetts or any other Algonkin dialect, an equivalent for the verb 'to kneel', in its literal and primary signification—'to rest on the bended knees' or (active-intransitive) 'to assume the position of kneeling.' In 2 Chron. vi. 13, Daniel vi. 10, Acts xx. 36, he translated "he kneeled down" by *ap-pe'-sit-tuk-qus'-sin*; but in the verse first cited, something more than the mere *act* of bending the knees or resting on them is implied. The verb here connotes supplication, submission, and worship, and all this is expressed in the eighth and ninth syllables (*-naw-weht-*) of the Indian synthesis, the whole of which may be translated, literally: "he, falling down upon his knees, worshipped [or, made supplication to] him." Thus the *one* Indian word of *eleven* syllables requires for its accurate interpretation *eight* or *ten* English words and at least eleven syllables.

---

\* Duponceau pointed out this word as the longest he had met with in any Indian language, except the Chippeway (of Schoolcraft) in which "there were some verbal forms of thirteen and fourteen syllables." (*Mémoire sur le Système Grammatical* etc., p. 143). A more remarkable illustration of "the Indian way of compounding words" was given by the Rev. Experience Mayhew, preacher to the Indians on Martha's Vineyard,—in a synthesis of *twenty-two* syllables, signifying, "our well-skilled looking-glass makers"—*Nup-pahk-nuh-tô-pe-pe-nau-wut-chut-chuh-quô-ka-neh-cha-e-nin-nu-mun-nô-nok*! (MS. Letter, 1722.)

This tendency to synthesis is not manifested only in the grammatical structure. It may be traced far back to the roots of the language, and characterizes the primary verbs as truly as it does the many-syllabled cluster-words of later growth. Father Le Jeune, a Jesuit missionary in Canada in 1634, mentions as a peculiarity of the language of the Montagnars, "the infinite number of words which signify many things together" and which yet had no etymological affinity with any of the words which signify those things severally: and he gave as an example the Montagnais verb *piouan*, meaning "the wind drives the snow," but in which no trace appears of the words for 'wind,' 'snow,' or 'to drive.\*' This synthesis which precedes grammar and concentrates complex ideas—thought-clusters—in a single word or syllable, is found in all the American languages of which we have any knowledge. The primary verb affirms conditioned or modified existence, specific and restricted action. There is—I speak now only of that group of languages to which my studies have been chiefly directed, the Algonkin,—there is no independent substantive verb; but there are verbs of *being* under every conceivable condition of time, place, and circumstance. "He is" cannot be exactly translated by any Algonkin verb, but every dialect has verbs signifying 'he is well,—or ill,' 'he lives,' 'he *was* (and *is not*),' 'he *was* (and *continues* to be),' 'he has himself,' 'he abides,' 'he remains,' 'he is the same as,' 'he is of the kind of,' 'il y a', etc.

Every standard vocabulary includes the verb 'to eat,' yet this verb has not, so far as I can discover, its equivalent in any American language. The Algonkin has four or five primary and a great many composite verbs of eating, but none of these expresses the simple act of taking food, without reference to the manner, mode, subject or object. One verb, for example, signifies 'to eat animal food' (or that which has or has had life); another, 'to eat vegetable food'; another, 'to eat *soft* food' (that which may be *dipped up*, spoon-victuals, such as samp, succotash, and the like); others, 'to eat ravenously, to devour like beasts of prey,' — 'to graze,' or take food from the

\* Relation de la Nouvelle France en l'année 1634 (repr. Quebec, 1858, p. 50.)



ground as cattle do,—and so on. Others again, by the insertion of a particle or by receiving a characteristic affix are made to express the act of eating *in company* with others, of eating *enough* or satisfying one's self with food, of eating *all* that is provided, of feasting, etc.

No Indian language, probably, has any verb which exactly corresponds to the English verb 'to go', yet the Indian verbs of motion are almost numberless. There are verbs of going by land,—by water,—by paddle,—by sail; of going *from* the speaker,—from the place of the action narrated,—and from a place other than that of the speaker or the action; of going *to* a person,—place,—inanimate object; of going by running,—jumping,—flying,—swimming, etc., (and these are not to be confounded with the verbs which express the *acts* of running, jumping, flying and swimming); of going fast, slow, before, after, aslant, in a straight course, by a devious path; and scores of others. A special vocabulary of the verbs of motion in any Indian language, giving an analysis of each and its precise signification, would be of some real value to philologists. But what is to be gained by entering against the English infinitive 'to go,' in a standard vocabulary, some one or another of these Indian verbs of going,—the entry carrying its own evidence of inaccuracy?

The defects of the vocabulary method are still more obvious when we consider the nature of Indian *names*. A peculiar strength of the English language lies in its concrete general names, and in the facility with which these names are made to pass from the concrete to the abstract. The peculiar excellence of the Indian languages is in the nice machinery by which *definitions* or *descriptions* of individual objects are made to stand for names, and by means of which, names which in English are general or abstract become individual or concrete. The English abounds with predicates of a class or genus: but the Indian noun—*verbum nominale*—itself predicates a *differentia* or an *accidens*, occasionally a genus or a species. I say, the Indian noun *predicates*,—for I can find no less objectionable form of expression, though this conveys only half the truth. Strictly regarded *the Indian noun is not separable, as a part of*

*speech, from the verb.* Every name is not merely descriptive but *predicative*,—not as in Indo-European languages by implication or suggestion, or by reason of remote derivation from a predicative root, but it retains the verb-form unchanged; is varied by *conjugation*, not by declension; has *tenses*, not cases; may become active, passive, reciprocal, frequentative, like other verbs. In short, every Indian name is in fact a verb,—is formed as a *participial* immediately from a verb,—or *contains within itself* a verb.

Without pursuing this branch of the subject further at present or multiplying examples, I repeat, that in view of the fundamental differences in grammatical structure and in plan of thought between the American and the Indo-European languages, it is nearly impossible to find an Indian name or verb which admits of exact translation by an English name or verb. But the standard vocabularies which have been most largely used in the collection and exhibition of materials are framed on the hypothesis that such translation *is* generally possible. They assume that equivalents of English *generic* names may be found among Indian *specific* and *individual* names,—that English analysis may be adequately represented, word for word, by Indian synthesis. Such vocabularies, as has been remarked, have their uses, but to linguistic science or to comparative philology they contribute nothing which is worth the cost of obtaining. When a collector or an editor has acquired a thorough knowledge of the grammatical structure of a language and has learned how to resolve synthesis by analysis, he may undertake the arrangement of his materials in the form of a vocabulary with some probability of imparting to the result real and permanent value. Without such preparation for his work—no matter how cautiously or with what ability he prosecutes it—he must not hope for great success.

It is easier to discover the defects of the old method than to point out a new and a better one. The details of such a method could not be discussed without exceeding the limits of this paper. Nor is such discussion called for. The way to a more thorough and exact knowledge of the Indian languages

is not unknown or untried. There are laborers already in the field who have not only proved that higher results than the compilation of brief vocabularies are attainable, but have shown how to attain them: and for the study of a considerable number of languages and dialects of the north, the south, the valleys of the Mississippi and Missouri and the far west, scholars are no longer restricted in materials to *quasi*-translations of lists of untranslatable English words.

The suggestions I shall offer have to some extent been anticipated by the drift of the foregoing remarks. The first is—

That a constant aim of the student of any of the American languages should be *the resolution of synthesis by analysis*. What the Indian has so skillfully put together—‘agglutinated’ or ‘incorporated’—must be carefully taken to pieces, and the materials of the structure be examined separately. Every Indian cluster-word is a sentence,—a description, definition, or affirmation. Mere translation will not exhibit its construction or afford a trustworthy basis of comparison with word-groups in other languages. Something is gained, it is true, by *exact* translation, but this cannot be had if the translation must be shaped to the requirements of an English vocabulary. A single chapter of the Bible or a dozen sentences of familiar conversation accurately translated into any Indian language or a few selected words and phrases translated *from* it to English will give a better insight to its structure and do more to determine its relationship to other American languages than long lists of concrete names or verb-forms compiled on the usual plan. But something more than translation, however accurate, is wanted. These languages must be studied in their *roots*,—for these are the elements of synthesis. The possible forms of synthesis are infinite, but the radicals or primaries are, in any language, few. The forms, both inflectional and syntactic, are subject to change from year to year and in passing from tribe to tribe; and these changes, it is said, have in some instances been surprisingly rapid and extensive. We are told of a vocabulary compiled by missionaries to a Central-American tribe in 1823 which had become useless

in 1833, so greatly had the language changed in the ten years which intervened.\* With better knowledge of the structure of these languages such changes would probably have been found to be for the most part only superficial;—the *synthesis* being differently constructed while its elements, the predicative and demonstrative roots, remained the same. Of such changes some further notice will be taken, in another part of this paper.

To single out and fix the primary meanings of the *verbal roots* should be the ultimate aim in the study of every Indian language. What excessive synthesis has done, searching analysis must undo. The task is not so difficult as at first sight it may seem to be. As I have before remarked, the roots or primaries are few and constant, or nearly so, in all

---

\* S. F. Waldeck, *Lettre à M. Jomard des environs de Palenqué*,—cited by Max Müller, *Lectures on the Science of Language*, 1st Series, p. 62 (Am. ed.). I confess that, without other explanation than appears, I find this statement hardly credible, and suspect that the worthlessness of the vocabulary should not have been attributed solely to the inconstancy of the language. Professor Müller (l. c.) refers also to Sagard's *Grand Voyage du Pays des Hurons* (Paris, 1632), for the statement "that among these North American tribes hardly one village speaks the same language as another; nay, that two families of the same village do not speak exactly the same language. And he adds what is important, that their language is changing every day, and is already so much changed that the ancient Huron language is almost entirely different from the present." But Sagard's statement must not be received without the qualification he himself gave it. He did not intimate that the differences of dialect were greater or the tendency to change more apparent in the Huron language than in the French. What he says—in the introduction to the *Dictionnaire de la langue Huronne* printed with his *Grand Voyage*—is in substance this: that there was the same diversity of accent, pronunciation and in the use of words, in provinces, towns and villages in the Huron country as in France; that the same words might be differently pronounced or the same object called by different names even by inmates of the same cabin; one person would say '*etseignon*,' and another '*etcheignon*,' one '*ochahenna*,' another '*ochahenda*,' &c.; and that, as in France (comme par deçà) new words were invented or brought in fashion and the pronunciation of the court had almost superseded (presque ensevely) the ancient Gallic, so "our Hurons and, generally, all other nations, have the same instability of language, and change their words so that in process of time the old Huron becomes almost entirely different from the modern." The change, as he conjectured, was still going on;—and yet, Sagard's very imperfect dictionary of this unstable language, two hundred years or more after it was compiled, enabled Duponceau to make himself understood without apparent difficulty by the Wyandots, a remnant of the lost nation of the Hurons. (Duponceau's *Mémoire*, p. 110.)

dialects and languages of the same family, — allowance being made for recognized differences of pronunciation and accent. They preserve their independent signification, however combined. They enter into composition without undergoing change of form, while their affixes and formatives obey laws of harmonious sequence of vowels as nicely adjusted as in Turkish. The five, ten, or more syllables of a verbal-synthesis do not grow out of or coalesce with one another, but each is *built on*: so that when the key is once found the word-puzzle may be taken in pieces as easily as it was put together. Indeed, it is a requirement of the Indian languages that every word *shall* be so framed as to admit of immediate resolution to its significant elements by the hearer. It must be thoroughly *self-defining*, for (as Max Müller has expressed it) “it requires tradition, society, and literature, to maintain words which can no longer be analyzed at once.” . . . . In the ever-shifting state of a nomadic society no debased coin can be tolerated in language, no obscure legend accepted on trust. The metal must be pure and the legend distinct.\* The more cumbersome and unwieldy the structure, the greater is the necessity for exact adjustment of its parts: and the laws of verbal composition are well-established, admitting *no exceptions*.

How far such an analysis as I have suggested can be successfully carried need not now be inquired. Every step taken in that direction will be something gained, will lead to more exact knowledge and to positive results. To determine and classify the *primary verbs* in any one language would be to bring a larger contribution to linguistic science than has often been made by students of the American tongues. Back of these verbs and of the primary demonstratives are the ultimate roots. These may not now be — possibly, they never will be attainable: yet I do not hesitate to express my belief that through the study of the American languages scholars may *as nearly* arrive at a solution of the great problem of the genesis of speech, in determining the character and office of its germs, as by any other avenue of approach. All attempts to establish relationship between the several great linguistic families by

---

\* Lectures on the Science of Language, 1st Series, pp. 292, 293.

the identification of roots, may indeed be regarded as hopeless; for few will be disposed to question Professor Whitney's conclusion (*Language and the Study of Language*, p. 392) that "the difficulties in the way of a fruitful comparison of roots are altogether overwhelming": and probably no one is yet "so sanguine as to expect to discover, amid the blind confusion of the American languages, where there are scores of groups which seem to be totally diverse in constituent material, the radical elements which have lain at the basis of their common development." But if order is ever to be brought out of this blind confusion,—if any satisfactory classification of the hundreds of languages and dialects now so loosely grouped is to be established,—if the genetic relation of one of these to another is to be demonstrated even in those cases where, on grounds independent of language, the probability of such relation is greatest,—analysis must first do its work, until, at least, it shall have determined and classified the earliest traceable constituents of speech, though compelled to stop short of the discovery of ultimate roots.

If the method I have indicated is the true one, the collection of materials for the critical study of an American language should begin, not with the translation into it of a given number of English names, but by looking out its simplest i. e. least composite words, and fixing their meanings,—by detaching from the constant roots or themes terminations and formatives which are merely grammatical,—and by translating from the Indian to the English, provisionally and subject to correction by more rigid analysis, the syntheses which discharge the office of concrete names, by conveying concise definitions or specific descriptions of the objects to which they are severally appropriated.

Among the words and elements of words which claim earliest attention, may be mentioned —

1. The *Pronouns*, separable and inseparable, and pronominal suffixes: with which may be included the *demonstratives*.

2. *Particles*, which serve as prepositions and post-positions, conjunctions and, occasionally, adverbs. Nearly all of these appear to be remnants of verbs and for the most part are

susceptible of conjugation as verbs. Their verbal origin may be matter of subsequent investigation, but a careful study of them in their present forms is essential, at the very outset, to thorough knowledge of a language: for they have much to do with the construction of syntheses and exert great influence in the modification of verbal roots.

3. The *Numerals*, cardinal, ordinal, and distributive. For the collection and analysis of these, some suggestions are given in "Instructions for research relative to the Ethnology and Philology of America," prepared for the Smithsonian Institution by Col. George Gibbs.\* As the numerals are always significant, it should be a special aim of the collector to ascertain the precise meaning of each. Does the word used for *one* signify 'a small thing,' 'a beginning,' 'the little one' (i. e. finger), 'undivided,' or 'that which is left behind, or passed by'? Does *three* mean 'the middle finger? Is *five* 'the hand,' 'the closed fist,' or 'all' the fingers? Is *six* 'five-one,' 'one more,' or 'one held up' (i. e. one of the fingers which had been doubled down)? Is *nine* 'one left,' or 'one less than,' or 'one wanting'? Is *eleven* 'one again' or 'ten more one'? Is *twenty*, as in the Eskimo, 'one man' (i. e. all the fingers and toes)? Every such question that is answered throws some light on the structure and method of synthesis and may help establish the relationship of the language.

4. *Primary Verbs*. Of these and of the tendency to the concentration of complex ideas in a single word, which is characteristic of the American languages, I have already spoken. Recollect that the Indian verb is almost always *holophrastic*. It affirms—not action or existence *generally*, but—some special and limited act or conditioned existence: consequently, it can seldom, if ever, be adequately translated by an English verb without adverbial qualification.

5. *Concrete Nouns*. We have seen that these are not, as in the inflectional languages so many names have come to be, mere unmeaning marks. They are descriptive and definitive; specific, not general; and each retains the verb form or embodies a verb. Every synthesis is so framed as to differentiate

---

\* Smithsonian Miscellaneous Collections, 160 (vol. vii. art. xi.).

the object it serves to name from every other object known to the speaker, and this so explicitly as to be intelligible to every hearer. The English word *horse* tells us nothing about the animal it names. Etymologists who can establish its connection with the Sanskrit *hrêsh* may find a reason for its appropriation to 'the neigher,' but we use it without having a consciousness of any such intrinsic significance, recognizing it, only because we have been taught to do so, as the distinguishing mark which has been set upon a species, just as — regardless of etymological suggestions — we recognize 'Charles' or 'William' as the distinguishing mark of an individual. The American languages permit the use of no such names without meaning. The native of Massachusetts who saw a horse for the first time distinguished it from all animals he had previously known, as "the beast that carries on his back a living burden," and this name once heard enabled every Indian of the tribe, or who understood the language, to identify the animal whenever it came in his way. So the Chippeway could recognize by its name alone the creature "whose hoofs are all solid," and so the Dakota knew at sight the "wonderful domestic animal" introduced by the white man.

With this understanding of the nature of Indian names, we see how tribes speaking dialects of the same language and not widely separated may come to have different names for the same object, — as many names, possibly, as there can be framed definitions or descriptions sufficiently exact for its differentiation. One Algonkin tribe calls the beaver a "feller of trees"; another describes him as "putting his head out of the water," i. e. air-breathing water-animal. The Chippeways and some other tribes of the same family name the humming-bird by the cumbrous synthesis *no no no'k' aus eé*; the Shyennes, a western off-shoot of the same Algonkin stock, call it *ma ká i tai' wi kis*. The two names have no apparent affinity. Standing side by side in a comparative vocabulary, their testimony would go to show the unlikeness of the languages to which they respectively belong. Yet both names would, probably, be alike intelligible to a Chippeway and a Shyenne. When we have learned that the one means "an exceedingly slight (or, deli-



cate) little creature," and the other, "the iron bird," we shall be less likely to draw a wrong inference from their external non-resemblance.

Where such latitude is allowed in name-giving and where a name is necessarily discarded when the description it gives of an object is no longer sufficient to distinguish it from every other, we must not expect to find the same constancy in the vocabulary as in languages like our own, in which names hold their places not by virtue of their inherent significance but by prescription. And here we have the reason of some of the changes which have been remarked in the languages of certain tribes, of which something was said in another place (p. 65). Such changes are likely to be most considerable and most rapid soon after the opening of intercourse with a civilized race. The significance of old names is lost, in the changed condition of the tribe. One synthesis displaces another which has no longer any distinguishing force: one object after another is divested of the characteristic quality which had given it a name. When Europeans first came to New England, the Algonkin name of a pot or kettle (*aukuk*) described it as 'made of earth'; but this name — still in use among the western Algonkins — could not long maintain its place in the language of Indians of the Atlantic coast after vessels of copper and iron were generally substituted for pots of clay or steatite. The introduction of fire-arms, — of dogs and horses, — of trading cloth and blankets, — not only called for the invention of a dozen new names but made nearly as many old ones useless.

6. *Characteristic particles* found in composition with verbs, designating specific modifications of the action or special relations of the action to the subject or object of the verb. These are prefixed, added as terminations, or inserted between the root and the inflection proper.

7. *Generic formatives* which, in grammatical synthesis, discharge the office of appellatives or general names.

These two classes — characteristic particles and generic formatives — present the most formidable obstacles which are to be encountered in acquiring thorough knowledge of any American language. One or the other or both have place in

nearly every synthesis. Both must be eliminated by analysis, before the primary signification of the verbs with which they are associated can be ascertained. Biliteral or uniliteral — syllables or mere fragments of syllables — they probably all represent, as many of them are known to do, independent words, some of which still maintain their places in the vocabulary while others have yielded to phonetic decay. The critical investigation of these particles will compensate the student for all the pains it may cost him, for in it he will be brought very near the ultimate roots of the language.

To the former class — characteristic particles — belong all the grammatical machinery for *energizing* and *individualizing* the activity of the verb, making it intensive, frequentative, causative, possessive, reciprocal, dubitative, simulative, representative, etc., — for designating the *manner* of acting or of being, and sometimes the *instrument* or *agency* by which the act is performed.

The nature and office of these characteristics may be shown by a few examples, from the Massachusetts-Algonkin, the Sioux-Dakota and the Choctaw:\* but of their number and variety in any language no adequate conception can be had without study of the language itself.

In the Massachusetts (as written by Eliot), *-uhk* or *-ohk* interposed between the root and the formative, denotes continued and *progressive* action — ‘to go on’ doing: *pet-aii*, ‘he puts (or, is put) into,’ *petUHK-aii*, ‘he goes into,’ *assa-maii*, ‘he gives food to,’ *assaUHK-amaï* (contracted to *sôHKamaï*, El.), ‘he keeps on giving food to,’ continues to feed (e. g., a domestic animal); *amâ-eu*, ‘he absents himself, departs’; *amaUHK-au* ‘he drives away’ (goes-after him-going); *wêk-eau* ‘he houses himself, provides a dwelling place,’ *wêkUHK-au* ‘he builds or constructs a dwelling place,’ goes on housing himself.

When the action is performed *with the hand*, the characteristic is *-nn* before the formative: *kenunnum* ‘he carries it *in his*

---

\* The Massachusetts forms are taken from Eliot’s version of the Bible, the Dakota from the Rev. S. R. Riggs’s excellent Grammar and Dictionary of that language (Washington, 1852), and the Choctaw from the Rev. C. Byington’s Choctaw Grammar (edited by Dr. D. G. Brinton, Philadelphia, 1870).

*hand*; *tohqunnum* 'he holds it fast *with his hand*' [comp. Cree *tákwanum*, 'he holds it with his hand,' *tákwátum* 'he holds it *in his mouth*']. If the action is performed *by cutting* or *with a knife*, -ss takes the place of -un: *sohqu-i* 'it is in small pieces,' 'broken fine'; *sohqunnum* 'he breaks or pulls it to pieces, *with his hand*,' *sohqussum* 'he *cuts* it in small pieces.' The act of *tying* or making fast by a cord or thong is denoted by -pi or -pin after the root; *kishPINnum* 'he ties it firmly, *with his hand*' (the characteristic is double, here); *assePINnum* 'he ties them together'; *togkuPINnau* 'he holds him fast *by bonds*,' &c. *Sudden, violent, or disastrous* action is denoted by the insertion of -sh; *petaiü* 'he puts (or goes) into' becomes *petshaü* 'he falls into' (e. g. a pit, or a snare); *pohqui* 'it parts asunder,' *poksheau* 'it breaks, by violence, or suddenly'; *togkun*, 'it strikes,' *togkushin* 'it strikes with violence,' etc.

In the Dakota group, the instrumentive or modal characteristic is *prefixed* to the verb: *ba-* shows that the action is done by *cutting* or *sawing*; *bo-* that it is done by *shooting* (lit. by *blowing*), or by some missile; *ya-* that it is performed *with the mouth*; *pa-* that it is done by *pushing, drawing, pressing, or rubbing* with the hand e. g.: *BAksa* 'to cut off,' *BAMda* 'to cut in slices,' *BAPta* 'to cut off a piece,' *BAPako* 'to cut or saw crooked' (from *pako* 'crooked'); *bohóho* 'to loosen by shooting' (from *hohó* 'loose'), *Boi'yowaza* 'to make an echo by shooting' (from *yai'wowaza* 'to make an echo'); *YACHocho* 'to chew fine' (from *chocho* 'soft'); *YAhóho* 'to make loose, with the mouth' (from *hóho* 'loose'); *PAdopa* 'to push into the mud' (from *dópa* 'to mire'), *PABu* 'to make a noise with drumming with the fingers' (from *bu* 'to make a noise'), *PAhmiyan* 'to make round like a ball, with the hands' (from *hmi'yan* 'round'), etc.

In the Choctaw, Mr. Byington (Grammar, p. 36) gives some of these forms for the verb *takchi* 'to tie': *ta'kehi* 'to be tying', *taiyakehi* 'to tie firmly', *tahak'kehi* 'to keep tying', *tan'kehi* 'to tie instantly' or suddenly, *takchichi* 'to cause to tie', etc.

In some of the Algonkin languages there is a special form of the verb for denoting a *pretence* of doing or being, 'feigning

to do'. In the Cree, this form has the characteristic *-ka's*: from *nipp'ow* 'he sleeps' comes *nippaKA'soo* 'he pretends to sleep'; *muskowissu* 'he is strong', *muskowisseKA'soo* 'he pretends to be strong', etc. (Howse's Cree Grammar, pp. 20, 84.)

What I have called *generic formatives* have been regarded by some writers on the American languages, especially by Mr. Schoolcraft, as "primitive nouns never disjunctively used." All, however, which are found in the Algonkin languages, may be shown to belong to one of two classes: verbals and participials regularly formed from primary verbs some of which still retain their independent places in the language, — and inflections, with a characteristic particle prefixed to each. They may be described, generally, as terminations which denote the class or kind to which the object designated by the synthesis belongs. Examples of these formatives may be observed in many geographical and local names. In the parts of the country where Algonkin dialects were spoken, *-paug* or *-pág* final (or followed by the locative sign *-ut*, *-it*, *-ing*,) denotes 'water at rest,' 'standing water,' and is the substantial component of many names of lakes and ponds: *-hanne* or *-han* 'flowing' distinguishes a 'rapid stream' or 'current'; *-tuk* (Abnaki *-tegoolé*, Delaware *-ittuk*) 'driven in waves', from a root signifying 'to strike,' is found in names of tidal rivers and estuaries and of broad deep streams: *-ompsk*, contracted to *-psk* or *-msk*, (Abnaki *-peskoo*, Cree *-pisk*, Chippeway *-bik*) denotes 'hard or flint-like rock.'\*

*-Minne* or its contraction *-min* is the generic affix of names of berries, nuts and other fruits which may be eaten. It is never used independently, though a nearly-related word *meen*, pl. *meenun*, is found, in the Chippeway and some other dialects, specially appropriated to a single species (the blue berry), and in the Cree the diminutives *menis* and *menissis* are used for 'berry' generally. The cranberry was called by the Narragansetts *sasé-min* 'very sour berry,' by the Chippeways

---

\* Since the above was written a more extended notice of this class of generic formatives, has been given in a paper "On the Composition of Indian Geographical Names," printed in the second volume of the Collections of the Connecticut Historical Society.

*muskegé-min* 'swamp berry'; the strawberry is (Chip.) *odéi-min* 'heart berry'; Indian corn, in Massachusetts, *ewâchi-min* or *weatchi-min*, but among the western Algonkins, *monda-min* 'manito (i. e. supernatural or wonderful) fruit.'

-*Pin* denotes an esculent tuber, or tuberous root; as in (Chip.) *o-pin*, potato, *wütü-pin*, wild potato, *muskode-pin* 'prairie root,' *wawbeze-pin* 'swan root' (a species of *Sagittaria*), etc.

-*Asq* in the Massachusetts and Narragansett dialects was the generic formative of the names of fruits which might be eaten 'raw' or when 'green,' — particularly, of melons and edible gourds. In the plural *-asq* makes *-asquash*, — whence our name 'squash' for several varieties of *Cucurbitaceæ*.\*

In the Chippeway language, *-gan* and *-jîgan* (*-gun* and *-jeegun*, Schoolcraft; Cree, *-gun*, *-chéggun*, Howse; Delaware, *-can*, *-schican*, Zeisberger;) are the formations of many names of *instruments*. Mr. Schoolcraft regarded these names as "based upon the word *Jeegun*, one of the primitive nouns, which, although never disjunctively used, denotes, in its modified forms, the various senses implied by our words instrument, contrivance, machine, &c." Sometimes, he says, it is shortened to *-gun*.† These generics, however, are not primitive words, but the formatives of participles, and *-jîgan* is never shortened to *-gan*, but is formed by the insertion of the characteristic of energetic action, *-jî*, between *-gan* and the verbal root. Participials in *-gan* (or *-gun*) serve as names of what may be distinguished as *passive* instruments, — things 'used for' some purpose by an animate agent: e. g. *niba-gan* 'a bed'

\* The primary meaning of *asq* or *ask* seems to have been 'before-time', 'immature', 'unfinished,' or the like. As an adverbial *prefix* to verbs it denotes that the action is *not yet* performed. Hence, *ask-i* and *ask-un* 'it is raw', i. e. not yet prepared to be eaten, or 'it is green' i. e. not yet matured. *Eskimo* is the Algonkin name of one who 'eats fish or flesh raw', — Abnaki 'ski-moohoo, Mass. *aski-moowhau*. The Dakota *sak* corresponds to the Algonkin *asq*: *sa'ka* 'raw'; dimin. *sa'ka-da* 'green, immature'; *sa'ka-yutapi* 'something eaten raw', melons, cucumbers, &c.

† Lectures on the Odjibwa Substantive. — Gallatin in Trans. Am. Antiq. Soc., vol. ii. p. 228, adopts from Schoolcraft the statement that "a numerous class of compounds is *derived* from *jeegun* or *gun*, meaning 'instrument', words never used alone."

(‘used for sleeping’), *opwâ-gan* ‘a pipe (‘used for smoking’), *wassâitshie-gan* ‘a window’ (‘used for lighting’), &c. Participials in *-jîgan* (*-jeegun*) or *-chéggun* denote inanimate *agents*, instruments ‘for doing’ something and which are regarded as exerting a degree of energy of their own. Of this class are all labor-saving machines and contrivances for *helping* the Indian do what he cannot do without them: e. g. Chippeway *kîshkîbo-jîgan* ‘a hand saw’, i. e. used for cutting crosswise; *tâshkîbo-jîgan* ‘a saw-mill, or pit saw’, used for cutting lengthwise; *bissibo-jîgan*, ‘a corn mill, or coffee mill’, used for making fine, reducing to powder. Delaware, *kinkan-schican* (Zeisb.), ‘a grindstone’, used for sharpening.\*

The preceding examples have been taken from languages of the Algonkin family, in which the generic annex *follows* the qualificative. In other groups the order of synthesis is reversed and the generic is prefixed. The Dakota *cha*” (*ch* as in *chin*) meaning ‘tree’ or ‘wood’, corresponds to the Algonkin *-tukh*, for the designation of articles ‘made of wood’ or ‘belonging to a tree’, e. g. *cha*”-*ha* ‘tree skin’, bark; *cha*”-*ha*”-*pi* ‘tree sap’, sugar, *cha*”-*opiye* ‘wood to put into’, a box or wooden vessel; *cha*”-*shi*” ‘tree fat’, gum or resin; *cha*”-*shu*”-*shka* ‘good for nothing wood’, the box-elder, &c. *Ta* is a generic prefix of names of ruminating animals, but when used independently denotes the moose, *par excellence*. *Wa* limits certain names to the ‘bear’ species. *Ho* refers others to the class ‘fish’,—as in *ho-a’pe* ‘a fin’ (from *a’pe* ‘leaf’); *ho-wa’sapa* ‘all-black fish’, the cat-fish; *ho-ta”ka* ‘great fish’, the sturgeon, &c.

The number and variety of these characteristics—often represented by single consonants,—the presence of one or another of them in almost every synthesis, the fact that the modifications they effect in the action of the verb are some-

---

\* This characteristic *-jî* is itself a compound or derivative, as we find by going back to simpler forms of the verb. In the Cree and Chippeway, *t* or *d* (Massachusetts, *tt* or *dt*) is the characteristic of verbs of action performed on inanimate objects; but if the object is *not expressed*, the verb takes a different inflection and its characteristic becomes *che* or *jî* (i. e. *t-she*, *d-zhe*). From this form of the verb comes the participial in *-jîgan* or *-chéggun*, which by its formative, *-an* or *-un* ascribes action to an *inanimate* subject employed to do an act, *generally*, or of which the object is not specified; “it cuts (something, or any thing) crosswise”, “it makes something sharp”, &c.

times so slight as to be lost sight of in translation to English, and the difficulty of separating them in all cases from the roots and inflections proper and of assigning to each its specific value — have contributed to give false notions of Indian word-making. One of these must be mentioned here, — for the error it involves is fundamental.

More than fifty years ago, Mr. Duponceau, relying on a statement of Hans Egede that “words are formed in the Greenland language by taking and joining together a *part of each of the radical words the ideas of which are to be joined together* in one compound locution,” and believing that he found something like this in the Delaware language, questioned his correspondent Mr. Heckewelder on the subject. Mr. Heckewelder replied, that in the Delaware and other languages that he was acquainted with, “parts or parcels of different words, sometimes a single sound or letter, are compounded together, in an artificial manner, so as to avoid the meeting of harsh or disagreeable sounds, and make the whole word fall in a pleasant manner on the ear”; and he gave two or three illustrations — or what he supposed to be such — of this process. It was further explained by Mr. Duponceau, in the Preface to his translation of Zeisberger’s Delaware Grammar, in 1827, as “consisting in putting together portions of different words, so as to awaken at the same time in the mind of the hearer the various ideas which they separately express.” Dr. Pickering lent his high authority to this statement by incorporating it with his excellent paper on Indian Languages in the *Encyclopædia Americana* (vol. vi., appendix), and Mr. Gallatin adopted it in his *Synopsis* (Trans. Am. Antiq. Society, ii. p. 201), where “this manner of compounding words, by uniting in a single one *the abbreviations*, sometimes a *single syllable*, or even *letter*, of *five, six or more words*”, is said to “belong equally to the Eskimau and to the Algonkin,” &c. It attracted the attention of W. von Humboldt, whose observations on the Delaware Language in the introduction to his great work (*Ueber die Kawi-Sprache auf der Insel Java*, vol. i. pp. cccxxxii.) were founded on Duponceau’s Correspondence with Heckewelder and translation of Zeisberger’s Grammar. From these authorities he

inferred, "das es von dem Redenden abhängt, solche [neue] Wörter oder vielmehr ganze zu Wörtern gestempelte Phrasen gleichsam aus Bruchstücken einfacher Wörter zusammenzufügen": but he came nearer than had Mr. Duponceau to the true explanation of the process, in the suggestion that "man müsste aber eine tiefere Kenntniss der Delaware-Sprache und der Verwandtschaft ihrer Wörter besitzen, um zu entscheiden, ob wirklich in den abgekürzten Wörtern *die Stammsyllben vernichtet, oder nicht vielmehr gerade erhalten werden*" (p. cccxxxiii.).

The publication in Paris of Duponceau's *Mémoire*, in 1838, brought his theory of Indian synthesis, or 'agglutination' as he preferred to call it, to the notice of European scholars, and since then it has been the common property of writers on language. Mr. Schoolcraft had already adopted it. In his *Lectures on the Chippeway Substantive*, first printed in 1834, he had contrasted the language "viewed in its original, elementary state — in a vocabulary, for instance, of its primitive words," with its "oral, amalgamated form", whose "transpositions may be likened to a picture, in which the opal, the carmine and the white lead are no longer recognized as distinct substances," — while "*it is the painter only who possesses the principle* by which one element has been curtailed, another augmented, and all, however seemingly discordant, made to coalesce": and "so completely transpositive do the words appear, that like chessmen on a board *their elementary syllables can be changed at the will of the player*, to form new combinations to meet new contingencies, so long as they are changed in accordance with certain general principles and conventional rules; in the application of which, however, *much depends upon the will or skill of the player.*"

Now it is certainly true that the elements of every new word in an Indian language may be found also in older words of the same language; but in regarding these elements in their new combination as the representatives or as "abbreviations" of the old words, selected not because of their inherent significance but "at the will of the player" and merely as mnemonic symbols, — Mr. Duponceau's theory is not only unsupported



by facts, but it involves a doctrine of Indian synthesis which is directly opposed to the true one. If it be accepted, neither the analytical method I have suggested nor any other could lead to positive results, and mere guess-work must be substituted for critical investigation. The actual derivation of the components of a phrase-word could never be known with certainty, and we could do no more than assign possible values to the several unknown quantities.

As I have said before, the Indian aimed at *extreme precision*. His words were so constructed as to be thoroughly self-defining and immediately intelligible to the hearer. In the construction of his synthesis, he was controlled by established and universally recognized laws; in the selection and arrangement of its elements, he admitted nothing ambiguous, left nothing to conjecture. What may be called the frame-work of an Algonkin polysynthesis, or phrase-word, is composed of two or more monosyllabic *roots*, each having its own substantial meaning. These are not to be regarded as "abbreviations" or fractions of words because they do not bring with them all the pronominal or other affixes, characteristics and inflectional forms they have received in other relations: and they "combine in one" *not* "all the various ideas contained in the several older words" in which they are found, but only the ideas which are inherent in or inseparable from themselves.

Mr. Duponceau's theory was adopted on slight examination and mistaken evidence. It appears to have been suggested to him by the statement of Hans Egede respecting the composition of words in the Eskimo language. In his correspondence with Heckewelder, before mentioned (p. 76), and again in his *Mémoire* (p. 92), he gives analyses of Eskimo words taken from Egede's Description of Greenland (Det gamle Grönlands nye Perlustration, Kiöbenhavn, 1741), perhaps in its German or English translation. But Paul Egede (in his Grammatica Grönlandica, Havnæ, 1760,) and Otho Fabricius (Forsög til en forbedret Grönlandsk Grammatica, 1791 and 1801,) supplied more full and clear explanations of the method of compounding Eskimo words, and showed how the meaning of the verb is modified by characteristic particles (see before, p. 71)

which are to be construed as auxiliary verbs but which have no independent meaning.\* Fabricius (pp. 214-343) enumerates 287 of the inseparable characteristics ("Verbalske Endelser," and gives examples of their use. Neither of these writers affords the least countenance to Duponceau's assumption that such particles are abbreviations or reminders of words which retain independent places in the language, — whatever may have been their remote origin.

In Mr. Schoolcraft's glowing description of Indian word-making as a process the secret of which is known only to the word-maker, in which the laws of composition are subordinated, and vocal pawns are moved about "at the will of the player," — this theory receives its *reductio ad absurdum*.

Dr. R. G. Latham, in his *Elements of Comparative Philology*, published in 1862, (p. 520), gave a concise exposition of the true doctrine of grammatical synthesis in the American languages. He dissented explicitly from the view which, since the appearance of Duponceau's *Mémoire* in 1838, had been taken by American and European philologists. Admitting "that there are in these languages certain very long words expressive of what in Europe is expressed by short ones, and that out of these long words compounds may be made which are no longer than either of the single elements," and that "this looks as if each were picked to pieces, and a part only taken," he remarks, that "in respect to the phenomenon of a composition with a decomposition to precede it — it would be important if proven. The fact, however, of the decomposition is more than doubtful. *It is not out of the full-formed pair of primary compounds that the secondary compound is made, but out of the original parts which existed while they — the apparent primary compounds — were merely compounds in posse.*"

---

\* "Certæ cum Verbis simplicibus componuntur Particulæ, loco Auxiliorum usurpandæ, quæ nullius, extra illam compositionem, sunt significationis" (Egede, *Gram. Grönl.*, p. 145); and again, of adverbs (p. 199): "partim e separatis vocibus aut particulis, partim e particulis encliticis, nulla, extra compositionem cum aliis vocibus, significatione gaudentibus, constant."